

TSWSF 9-2-81
VI

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

IN THE MATTER OF:

Burlington Northern Railroad,
owning approximately 300 acres
of the South Tacoma Swamp
in Pierce County, Washington

Respondent.

Proceeding Under Section 106(a) of
the Comprehensive Environmental
Response, Compensation, and Liability
Act of 1980 42 U.S.C. §9606(a)

Docket No. 1086-08-08-106

ADMINISTRATIVE ORDER

ON CONSENT

I. JURISDICTION

This Consent Order is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. §9606(a), as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, ___ Stat. ___ (19___)(SARA)

1 and delegated to the Administrator of the United States Environmental
2 Protection Agency (EPA) on August 14, 1981, by Executive Order 12316, 46
3 Fed. Reg. 42237, and further delegated to the Assistant Administrator for
4 Solid Waste and Emergency Response and the Regional Administrators by EPA
5 Delegation Nos. 14-14 and 14-14-A, the latter of which was signed on
6 April 16, 1985, and further delegated to the Hazardous Waste Division
7 Director.

8
9 This Consent Order is being issued to Burlington Northern Railroad
10 (BNR) which agrees to undertake all actions required by this Consent Order
11 and agrees not to contest EPA jurisdiction regarding this Consent Order.
12

13 II. STATEMENT OF PURPOSE

14

15 In entering into this Consent Order, the mutual objectives of EPA and
16 BNR are to perform a Remedial Investigation/Feasibility Study (RI/FS) (1) to
17 determine fully the nature and extent of the threat to the public health or
18 welfare or the environment caused by the release or threatened release of
19 hazardous substances, pollutants or contaminants from the site
20 (the remedial investigation), and (2) to evaluate alternatives for the
21 appropriate extent of remedial action to prevent or mitigate the migration
22 or the release or threatened release of hazardous substances, pollutants, or
23 contaminants from the site (the feasibility study). The activities
24 conducted pursuant to this Consent Order are subject to approval by EPA and
25 shall be consistent with the National Contingency Plan, 40 CFR Part 300.68
26 (a)-(j) (1985).
27
28

III. FINDINGS OF FACT

A. The South Tacoma Swamp is a geological depression encompassing approximately 300 acres in the northwestern section of Pierce County; in the southwest corner of the city of Tacoma. The South Tacoma Swamp is an environmentally sensitive area because it is located over a vulnerable aquifer recharge area consisting of highly permeable soils with high infiltration rates. Depth to groundwater is approximately 10 to 40 feet. The water recharge area is a major water source for the city of Tacoma. The city of Tacoma operates 13 municipal wells (Figure 1) within 0.5 miles of the site which provide up to 40% of the total city water supply. In addition to water supply, the surface and groundwater drainage provides recharge for Flett Creek, which lies approximately two miles to the south of the site.

B. The South Tacoma Swamp is part of the prime industrial area of Tacoma, Washington. Filling of the swamp with industrial and domestic wastes has occurred since the early 1900s.

C. BNR owns approximately 220 acres within the South Tacoma Swamp. See Figure 1 for property boundaries. For the purposes of this Consent Order, these 220 acres owned by BNR will be referred to as "the site". The groundwater beneath the South Tacoma Swamp is, however, not limited by property boundaries.

D. Reports of railroad activities on the site include such things as the staging and shipping of military material during World War II, the cleaning of railroad cars, and the demolition of old cars. In August 1981,

1 the state of Washington Department of Ecology informed BNR that uncontrolled
2 dumping of miscellaneous materials on its property must be stopped.

3 E. The South Tacoma Swamp is part of the South Tacoma Channel site
4 which was placed on the National Priorities List on September 8, 1983, 48
5 Fed. Reg. No. 175.

6 F. Investigations conducted by EPA in 1982 show that groundwater and
7 surface waters at the site contain elevated levels of inorganic chemicals
8 (cadmium, lead, mercury, iron, and manganese). The concentrations of these
9 chemicals approach or exceed EPA drinking water standards. See Table 1 and
10 Figure 1 for details.

11 G. Investigations conducted by EPA and the Tacoma Pierce County Health
12 Department from 1982 through 1985 show that soil at the site contains
13 elevated levels of polynuclear aromatic hydrocarbons (PAHs), barium, lead,
14 and chromium. Buried drums containing coal tar, PAHs, and trichloroethene
15 were found by EPA and BNR in 1986. See Table 2 and Figure 1 for details.

16 H. The chemicals listed in paragraphs F and G are all systemic
17 toxicants which affect the central nervous system, cardiac system,
18 respiratory system, and the renal function of humans. Specific effects vary
19 with chemical concentration, chemical form, and exposure. In addition to
20 being systemic toxicants, chromium, PAHs, and coal tar compounds are
21 potential human carcinogens.

22 I. The presence of these inorganic and organic chemicals in soil,
23 surface water, and groundwater represents a threat to human health and the
24 environment through direct ingestion of soil, inhalation of dust, and
25 ingestion of groundwater. Surface water chemicals may harm aquatic
26 organisms. Those chemicals found in the soil and in buried drums at the
27
28

1 site are persistent and may leach into the groundwater and surface water,
2 increasing the risk to the human population and aquatic organisms.

3
4 IV. CONCLUSIONS OF LAW

5
6 A. The site where BNR performed railroad activities, such as staging
7 and shipping of equipment and cleaning railroad cars, is defined as a
8 "facility" pursuant to 42 U.S.C. § 9601(9).

9 B. The named respondents and individuals are defined as "persons"
10 pursuant to 42 U.S.C. §9601(21).

11 C. Organic and inorganic compounds which were released into the
12 environment at the site are "hazardous substances" pursuant to 42 U.S.C.
13 §9601(14).

14 D. The presence of organic and inorganic compounds in the soil and the
15 groundwater constitutes a "release" into the environment pursuant to 42
16 U.S.C. §9601(22).

17 E. BNR is the owner of the facility, is a potentially responsible
18 party, and is subject to liability pursuant to 42 U.S.C. §9607(a)(1).

19 F. BNR does not admit that it is a potentially responsible party.
20

21 V. DETERMINATIONS

22
23 A. Based on the findings of fact and conclusions of law set out above,
24 and all other information available, the Regional Administrator of EPA has
25 determined that (pursuant to Section 106 of CERCLA, 42 U.S.C. §9606) there
26 may be an imminent and substantial endangerment to the public health or
27
28

1 welfare or the environment because of an actual or threatened release of a
2 hazardous substance from the site herein described.

3 B. Under Section 106 of CERCLA, 42 U.S.C. §9606, the Regional
4 Administrator has been delegated the authority to issue orders to secure
5 such relief as may be necessary to protect the public health or welfare and
6 the environment.

7 C. Respondent BNR does not admit that conditions at the site
8 constitute an imminent and substantial endangerment to the public health,
9 welfare, or environment within the meaning of Section 106 of CERCLA, 42
10 U.S.C. §9606.

11
12 VI. WORK TO BE PERFORMED

13
14 A. Pursuant to Section 106 of CERCLA, BNR hereby agrees to conduct a
15 Remedial Investigation/Feasibility Study, as outlined in the attached Work
16 Plan (Appendix A), to perform a site inspection, evaluate initial remedial
17 measures for removal and/or containment of contaminated surface debris at
18 the site, investigate groundwater and soil at the BNR site, and evaluate
19 remedial alternatives for the clean up of the site. The deliverables
20 requested in the outlined performance periods are defined as follows:

21 1. A preliminary report based on site inspection, review of
22 historical activities and current data.

23 2. A report for initial remedial measures for any materials which
24 represent immediate health hazards, e.g., drums of coal tar.

1 3. The Remedial Investigation will include a site investigation
2 to determine the nature and extent of the problem at the site, and to gather
3 all necessary data to support the Feasibility Study.

4 4. The Feasibility Study will develop and evaluate remedial
5 action alternatives at the site.

6 5. The Sampling and Quality Assurance Plan will follow the
7 guidance set forth in EPA document (QAMS-005/80).

8 6. A Health and Safety plan for protection of site personnel and
9 adjacent properties.

10 7. The end deliverable from the RI/FS will be a final report
11 which will present the results obtained, conclusions reached, and suggested
12 alternatives from the aforementioned activities.

13 B. All work performed pursuant to this Consent Order shall be under
14 the direction and supervision of qualified personnel with expertise in
15 hazardous waste management and is described more fully in the Work Plan for
16 Phases I and II. The Work Plan is incorporated herein by reference.

17 C. Performance periods for elements of the Work Plan for Phases I and
18 II shall be as follows:

19 1. A Sampling and Quality Assurance Plan and Health and
20 Safety Plan for Phases I and II will be submitted within fourteen (14)
21 calendar days of the date of the Order on Consent.

22 2. An EPA approved Sampling and Quality Assurance Plan for Phases
23 I and II will be implemented within thirty (30) calendar days of the date of
24 approval of the plan.

25 3. Field studies are to begin thirty (30) calendar days from the
26 date of EPA approval of the Sampling and Quality Assurance Plan for Phase I
27 and II.
28

1 4. The RI/FS will be submitted to EPA in three phases:

2 a. Phase I: The site inspection will be completed within
3 ninety (90) calendar days of beginning field studies.

4 b. Phase II: Initial remedial measures will be completed
5 within one hundred twenty (120) calendar days of beginning field studies.

6 c. Phase III: Final RI/FS

7 5. A detailed Work Plan for the RI/FS (Phase III) will be
8 submitted to EPA within one hundred (100) calendar days of beginning field
9 studies.

10 6. The Work Plan for Phase III will include a remedial Health and
11 Safety Plan, Sampling Plan, and Quality Assurance Plan.

12 7. RI/FS Final Report to be submitted to EPA Region 10 and
13 Ecology within twenty two (22) months from the date of the Order on Consent.

14 D. BNR shall provide summary monthly written progress reports to EPA
15 according to the schedule contained in the RI/FS Work Plan.

16 E. BNR shall provide preliminary and final reports to EPA according to
17 the schedule contained in the RI/FS Work Plan.

18 F. EPA shall notify BNR in writing of EPA's approval or disapproval of
19 these reports or any part thereof. In the event of any disapproval, EPA
20 shall specify in writing both the deficiencies and reasons for such
21 disapproval.

22 G. In the event of disapproval, EPA retains the right to provide
23 supplementary reports, to perform additional studies, and to conduct a
24 complete RI/FS pursuant to its authority under CERCLA.

25 H. EPA may determine that tasks, including remedial investigatory work
26 and/or engineering evaluation, are necessary as part of the RI/FS in
27
28

1 addition to EPA approved tasks and deliverables, including those which have
2 been completed pursuant to this Consent Order. Subject to the Dispute
3 Resolution Section (Section XII) of this Order, BNR shall implement any
4 additional tasks which EPA determines are necessary as part of the RI/FS and
5 which are in addition to the tasks detailed in the RI/FS work plan. The
6 additional work shall be completed in accordance with the standards,
7 specifications, and schedule determined or approved by EPA.
8

9 VII. DESIGNATED PROJECT COORDINATORS

10
11 A. On or before the effective date of this Consent Order, EPA and BNR
12 shall each designate a Project Coordinator. Each Project Coordinator shall
13 be responsible for overseeing the implementation of this Consent Order. To
14 the maximum extent possible, communications between BNR and EPA and all
15 documents, including reports, approvals, and other correspondence concerning
16 the activities performed pursuant to the terms and conditions of this
17 Consent Order, shall be directed through the Project Coordinators. 3

18 B. EPA and BNR each have the right to change their respective Project
19 Coordinator. Such a change shall be accomplished by notifying the other
20 party in writing at least five (5) calendar days prior to the change.

21 C. The EPA Project Coordinator will be EPA's designated representative
22 and shall have the authority vested in the On-Scene Coordinator by the
23 National Contingency Plan at 40 C.F.R. Part 300 (1985). This includes the
24 authority to halt, conduct, or direct any tasks required by this Consent
25 Order and/or any response actions or portions thereof when conditions
26 present an immediate risk to public health or welfare or the environment.
27
28

1 D. The absence of the EPA Project Coordinator from the site shall not
2 be cause for the stoppage of work.

3
4 VIII. QUALITY ASSURANCE

5
6 A. BNR shall use quality assurance, quality control, and chain of
7 custody procedures in accordance with EPA document QAMS-005/80, throughout
8 all sample collection and analysis activities. BNR shall consult with EPA
9 in planning for, and prior to, all sampling and analysis as detailed in the
10 RI/FS Work Plan. In order to provide quality assurance and maintain quality
11 control regarding all samples collected pursuant to this Consent Order, BNR
12 shall:

13 1. Ensure that EPA personnel and/or EPA authorized
14 representatives are allowed access to the laboratory(s) and personnel
15 utilized by BNR for analyses.

16 2. Ensure that the laboratory(s) utilized by BNR for analyses
17 perform such analyses according to EPA methods or methods deemed
18 satisfactory to EPA and submit all protocols to be used for analyses to EPA
19 at least fourteen (14) calendar days prior to the commencement of analyses.

20 3. Ensure that laboratory(s) utilized by BNR for analyses agree
21 to participate in an EPA quality assurance/performance and system audit
22 program. As part of such a program, and upon request by EPA, such
23 laboratory(s) shall perform analyses of samples provided by EPA to
24 demonstrate the quality of each laboratory's analytical data. Such requests
25 shall be equal to or less than twenty (20) percent of all samples analyzed
26 during the project.

1 IX. SITE ACCESS

2
3 A. To the extent that the site is presently owned by parties other
4 than those bound by this Consent Order, BNR has obtained or will use its
5 best efforts to obtain site access agreements from the present owners
6 within thirty (30) calendar days of the effective date of this Consent
7 Order. Such agreements shall provide reasonable access to EPA and/or its
8 authorized representatives. In the event that site access agreements are
9 not obtained within the time referenced above, BNR shall notify EPA
10 regarding both the lack of such agreements, and the efforts to obtain them,
11 within thirty (30) calendar days of the effective date of this Consent Order.
12

13 X. SAMPLING, ACCESS, AND DATA/DOCUMENT AVAILABILITY

14
15 A. BNR shall make the results of all sampling and/or tests or other
16 data generated by BNR, or on BNR's behalf, with respect to the
17 implementation of this Consent Order, available to EPA and shall submit
18 these results as available. EPA will make available to BNR the results of
19 sampling and/or tests or other data similarly generated by EPA as they
20 become available.

21 B. At the request of EPA, BNR shall allow split or duplicate samples
22 to be taken by EPA and/or its authorized representatives of any samples
23 collected by BNR pursuant to the implementation of this Order. BNR shall
24 notify EPA not less than one (1) week (seven calendar days) in advance of
25 any sample collection activity.

26 C. EPA and/or any EPA authorized representative shall at least have
27
28

1 the authority to enter and freely move about all property at the site at all
2 reasonable times for the purposes of, inter alia: inspecting records,
3 operating logs, and contracts related to the site; reviewing BNR's progress
4 in carrying out the terms of this Consent Order; conducting such tests as
5 EPA or the Project Coordinator deem necessary; using camera, sound
6 recording, or other documentary type equipment; and verifying the data
7 submitted to EPA by BNR. BNR shall permit such persons to inspect and copy
8 all records, files, photographs, documents, and other writings, including
9 all sampling and monitoring data, in any way pertaining to work undertaken
10 pursuant to this Consent Order. All parties with access to the site
11 pursuant to this paragraph shall comply with all approved health and safety
12 plans.

13 D. BNR may assert a confidentiality claim, if appropriate, covering
14 part or all of the information requested by this Consent Order pursuant to
15 40 C.F.R. §2.203(b). Such an assertion shall be adequately substantiated
16 when the assertion is made. Analytical data shall not be claimed as
17 confidential by BNR. Information determined to be confidential by EPA will
18 be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no
19 such claim accompanies the information when it is submitted to EPA, it may
20 be made available to the public by EPA without further notice to BNR.

21 22 XI. RECORD PRESERVATION

23
24 A. EPA and BNR agree that each shall preserve, during the pendency of
25 this Consent Order and for a minimum of six (6) years after its termination,
26 all records and documents in their possession or in the possession of their
27
28

1 employees, agents, accountants, contractors, or attorneys, related in any
2 way to the site, despite any document retention policy to the contrary.
3 After this six year period, BNR shall notify EPA within thirty (30) calendar
4 days prior to the destruction of any such documents. Upon request by EPA,
5 BNR shall make available to EPA such records or copies of any such records.
6 If, at the expiration of the six year period, EPA determines that some or
7 all of the above specified records are to be preserved for a longer period
8 of time, BNR shall supply those records to EPA upon EPA's request.

9 10 XII. DISPUTE RESOLUTION

11
12 A. If BNR objects to any written notice disapproval or decision made
13 by EPA under the terms of this Order, BNR shall notify EPA in writing of its
14 objection, and the reasons thereof, within ten (10) days of receipt of the
15 notice or decision. EPA and BNR shall then have an additional 20 days from
16 EPA's receipt of the notification of objection to reach agreement on the
17 disputed matter. The resolution of a dispute shall be enforceable as part
18 of this Order. If agreement cannot be reached on any issue within the
19 twenty (20) day period, and an extension of time is not agreed to by the
20 parties, EPA shall provide BNR with a written statement of its decision.
21 This decision shall be enforceable as part of this Order.

22 B. EPA and BNR agree that this section pertaining to dispute
23 resolution can only be invoked for those disputes which BNR can demonstrate
24 involve acts or omissions which, if performed, involve direct monetary
25 expenditures by BNR of Three Thousand and 00/100 Dollars (\$3,000.00) or
26 more. This dispute resolution section shall not be invoked by BNR for
27
28

1 purposes of delay.

2 C. EPA and BNR agree that stipulated penalties as set forth in
3 paragraph XIII shall continue to accrue, according to the provisions of
4 paragraph XIII, during the dispute resolution process unless otherwise
5 agreed by EPA.

6
7 XIII. DELAY IN PERFORMANCE/STIPULATED PENALTIES
8

9 A. If any event occurs which causes delay in the achievement of any of
10 the requirements of this Order, BNR shall promptly notify EPA orally and
11 shall, within five (5) days of such event, notify EPA in writing of the
12 nature of the delay, the anticipated duration and cause of the delay, the
13 measures taken and to be taken by BNR to prevent or minimize the delay, the
14 schedule by which BNR intends to implement these measures, and whether the
15 delay may, in the opinion of BNR, cause or contribute to an endangerment to
16 public health, welfare, or the environment. If BNR demonstrates that the
17 delay or anticipated delay has been or will be caused by circumstances
18 beyond the control and despite the due diligence of BNR, the time for
19 performance under this Order shall be extended as appropriate. If BNR fails
20 to provide the notice to EPA required by this paragraph, it shall not
21 receive an extension of time for performance of the affected work. Neither
22 increased costs or expenses of performance of any requirements of this Order
23 or changed business or economic circumstances shall be considered
24 circumstances beyond the control of BNR.

25 B. For delays by BNR in submitting a report or document or otherwise
26 failing to achieve on time the requirements of this Consent Order which are
27
28

1 not caused by circumstances beyond its control as specified in Section XIII
2 A, EPA may require that BNR shall pay into the United States Treasury, the
3 sums set forth below as stipulated penalties. Checks should be addressed
4 to: U.S. Environmental Protection Agency Region 10, Superfund Accounting,
5 P.O. Box 371003M, Pittsburgh, Pennsylvania 45251.

6 C. Stipulated penalties shall accrue in the amount of:

7 1. Failure to submit Sampling and Quality Assurance plans
8 per agreed-upon schedule: \$100.00 per day.

9 2. Failure to implement EPA approved Sampling and Quality
10 Assurance plan per agreed-upon schedule: \$200.00 for the first week or any
11 fraction thereof, and \$400.00 for each week thereafter.

12 3. Failure to begin field studies or laboratory analysis
13 per agreed-upon schedule: \$200.00 for the first week or any fraction
14 thereof and \$400.00 for each week thereafter.

15 4. Failure to submit the final RI/FS report including
16 Phases I, II, and III per the agreed-upon schedule: \$1,000.00 for the first
17 week or any fraction thereof, and \$2,000.00 for each week thereafter.

18 D. The stipulated penalties set forth in this section do not
19 preclude EPA from electing to pursue any other remedies or sanctions which
20 may be available to EPA by reason of BNR's failure to comply with any of the
21 requirements of this Consent Order. Such remedies and sanctions include a
22 suit for statutory penalties as authorized by Section 106 of CERCLA, for a
23 federally-funded response action.
24
25
26
27
28

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

XIV. RESERVATION OF RIGHTS

A. Notwithstanding compliance with the terms of this Consent Order, including the completion of an EPA approved Remedial Investigation and Feasibility Study, BNR is not released from liability, if any, for any actions beyond the terms of this Consent Order taken by EPA respecting the site. EPA reserves the right to take any enforcement action pursuant to CERCLA and/or any available legal authority, including the right to seek injunctive relief, monetary penalties, and punitive damages for any violation of law or this Consent Order.

B. Nothing contained in this Consent Order shall affect any right, claim, interest, or cause of action of any party hereto with respect to third parties.

XV. REIMBURSEMENT OF COSTS

A. Commencing with the effective date of this order, at the end of each one year period from the effective date, EPA shall submit to BNR an accounting of all reasonable response and oversight costs, as specified in Appendix B, incurred by the U.S. Government with respect to this Consent Order. BNR shall, within sixty (60) calendar days of receipt of that accounting, remit a check for the amount of those costs made payable to the Hazardous Substance Response Trust Fund. Checks should specifically reference the identity of the site and be addressed to:

1 U.S. Environmental Protection Agency
2 Superfund Accounting
3 P.O. Box 371003M
4 Pittsburgh, Pennsylvania 15251
5 Attention: (Collection Officer for Superfund)

6 B. This Consent Order shall not be construed in any way as a waiver or
7 limitation on EPA's right to seek reimbursement from any responsible party,
8 including entities not a signatory to this Consent Order, pursuant to 42
9 U.S.C. §9607 for recovery of all response and oversight costs incurred by
10 the United States in connection with response activities pursuant to CERCLA
11 at this site.

12 XVI. OTHER CLAIMS

13 A. Nothing in this Consent Order shall constitute or be construed as a
14 release from any claim, cause of action or demand in law or equity against
15 any person, firm, partnership, or corporation not a signatory to this
16 Consent Order for any liability it may have arising out of or relating in
17 any way to the generation, storage, treatment, handling, transportation,
18 release, or disposal of any hazardous substances, hazardous wastes,
19 pollutants, or contaminants found at, taken to, or taken from the site.

20 B. This Consent Order does not constitute any decision on
21 preauthorization of funds under Section 111(a)(2) of CERCLA.

22 XVII. OTHER APPLICABLE LAWS

23 A. All actions required to be taken pursuant to this Consent Order
24 shall be undertaken in accordance with the requirements of all applicable
25
26
27
28

1 local, state, and federal laws and regulations unless an exemption from such
2 requirements is specifically provided in this Consent Order.

3
4 XVIII. INDEMNIFICATION OF THE UNITED STATES GOVERNMENT

5
6 A. BNR agrees to indemnify and save and hold the United States
7 Government, its agencies, departments, agents, and employees, harmless from
8 any and all claims or causes of action arising from or on account of acts or
9 omissions of BNR, their officers, employees, receivers, trustees, agents, or
10 assigns, in carrying out the activities pursuant to this Consent Order. EPA
11 is not a party in any contract involving BNR at the site.

12
13 XIX. PUBLIC COMMENT

14
15 A. Upon submittal to EPA of an approved Remedial
16 Investigation/Feasibility Study Final Report, EPA shall make it available to
17 the public for review and comment for, at a minimum, a twenty-one (21) day
18 period, pursuant to EPA's Community Relations Policy. Following the public
19 review and comment period, EPA shall notify BNR's designated Project
20 Coordinator which remedial action alternative is approved for the site.

21
22 XX. EFFECTIVE DATE AND MODIFICATION

23
24 A. In consideration of the communications between BNR and EPA prior to
25 the issuance of this Consent Order, BNR agrees that there is no need for a
26 settlement conference prior to the effective date of this Consent Order.

1 Therefore, the effective date of this Consent Order shall be the date on
2 which it is signed by EPA.

3 B. This Consent Order may be amended by mutual agreement of EPA and the
4 designated Project Coordinator for BNR. Such amendments shall be in writing
5 and shall have as the effective date, that date on which such amendments are
6 signed by EPA.

7 C. Any reports, plans, specifications, schedules, and attachments
8 required by this Consent Order are, upon approval by EPA, incorporated into
9 this Consent Order. Any noncompliance with such EPA approved reports,
10 plans, specifications, schedules, and attachments shall be considered a
11 failure to achieve the requirements of this Consent Order and will subject
12 BNR to the provisions included in the "Delay in Performance/Stipulated
13 Penalties" Section (Section XII) of this Consent Order.

14 D. No informal advice, guidance, suggestions, or comments by EPA
15 regarding reports, plans, specifications, schedules, and any other writing
16 submitted by BNR will be construed as relieving BNR of their obligation to
17 obtain such formal approval as may be required by this Consent Order.

18
19 XXI. PARTIES BOUND
20

21 A. This Consent Order shall apply to and be binding upon BNR and EPA,
22 their agents, successors, and assigns and upon all persons, contractors, and
23 consultants acting under or for either BNR or EPA or both.

24 B. No change in ownership or corporate or partnership status relating
25 to the site will in any way alter the status of BNR or in any way alter
26 BNR's responsibility under this Consent Order. BNR will remain the
27
28

Respondent under this Consent Order and will be responsible for carrying out all activities required of the Respondent under this Consent Order.

XXII. NOTICE TO THE STATE

A. EPA has notified the state of Washington pursuant to the requirements of Section 106(a) of CERCLA.

XXIII. TERMINATION AND SATISFACTION

A. The provisions of this Consent Order shall be deemed satisfied upon BNR's receipt of written notice from EPA that BNR has demonstrated, to the satisfaction of EPA, that all of the terms of this Consent Order, including any additional tasks which EPA has determined to be necessary, have been completed.

IT IS SO AGREED AND ORDERED:

Dated: January 7, 1987

BY: [Signature]
FOR BURLINGTON NORTHERN RAILROAD

Dated: January 22, 1987

BY: [Signature]
U.S. ENVIRONMENTAL PROTECTION AGENCY

TABLE 1

Inorganic contaminants found at several sampling locations in groundwater and surface water in Tacoma Swamp, Tacoma, Washington. Concentrations are compared to EPA drinking water standards. Sampling locations are noted on Figure 1.

<u>Element</u>	<u>Concentration</u> <u>ug/L</u>	<u>Sampling</u> <u>Location</u>	<u>Standard</u> <u>ug/L</u>
Barium	220	CBS 22	1000
Cadmium	14	CBS 23	10
Lead	29	CBS 14	50
Mercury	1.2	CBS 13	2
Iron	17500	CBS 8 & 9	300
Manganese	1400	CBS 8	50

TABLE 2

Inorganic and organic contaminants found at several locations in soil and buried drums on Burlington Northern Railroad property in South Tacoma Swamp, Tacoma, Washington. Sample locations are noted on Figure 1.

<u>Element</u>	<u>Concentration</u> <u>mg/kg</u>	<u>Location</u>
Lead	4850	CBS 01
Lead	4300	CBS 41
Chromium	642	CBS 01
PAH	13	CBS 34
PAH	9	CBS 36
PAH	10	CBS 37
PAH	15	CBS 38
Barium	62	CBS 36
Barium	34	CBS 26
Trichloroethene	2200	BNR-X
Polynuclear aromatic hydrocarbons:		
Napthalene	34000	BNR-X
Acenaphthene	13000	BNR-X
Fluorene	11000	BNR-X
Phenanthrene	46000	BNR-X
Anthracene	11000	BNR-X
Fluoranthene	42000	BNR-X
Pyrene	27000	BNR-X
Benzo(a)anthracene	15000	BNR-X
Chrysene	11000	BNR-X
Benzo(b)fluoranthene	8000	BNR-X
Benzo(k)fluoranthene	4500	BNR-X
Benzo(a)pyrene	8100	BNR-X
Benzo(g,h,i)pyrene	2300	BNR-X
Coal Tar:		
Benzene	2200	BNR-X
Bromoform	300	BNR-X
Toluene	7000	BNR-X
Styrene	6700	BNR-X
Xylene	22000	BNR-X
Ethylbenzene	2600	BNR-X

Polychlorinated Biphenyls (PCBs)

PCB-1248 57.9

CBS-26

PCB-1254 1.4

CBS-27

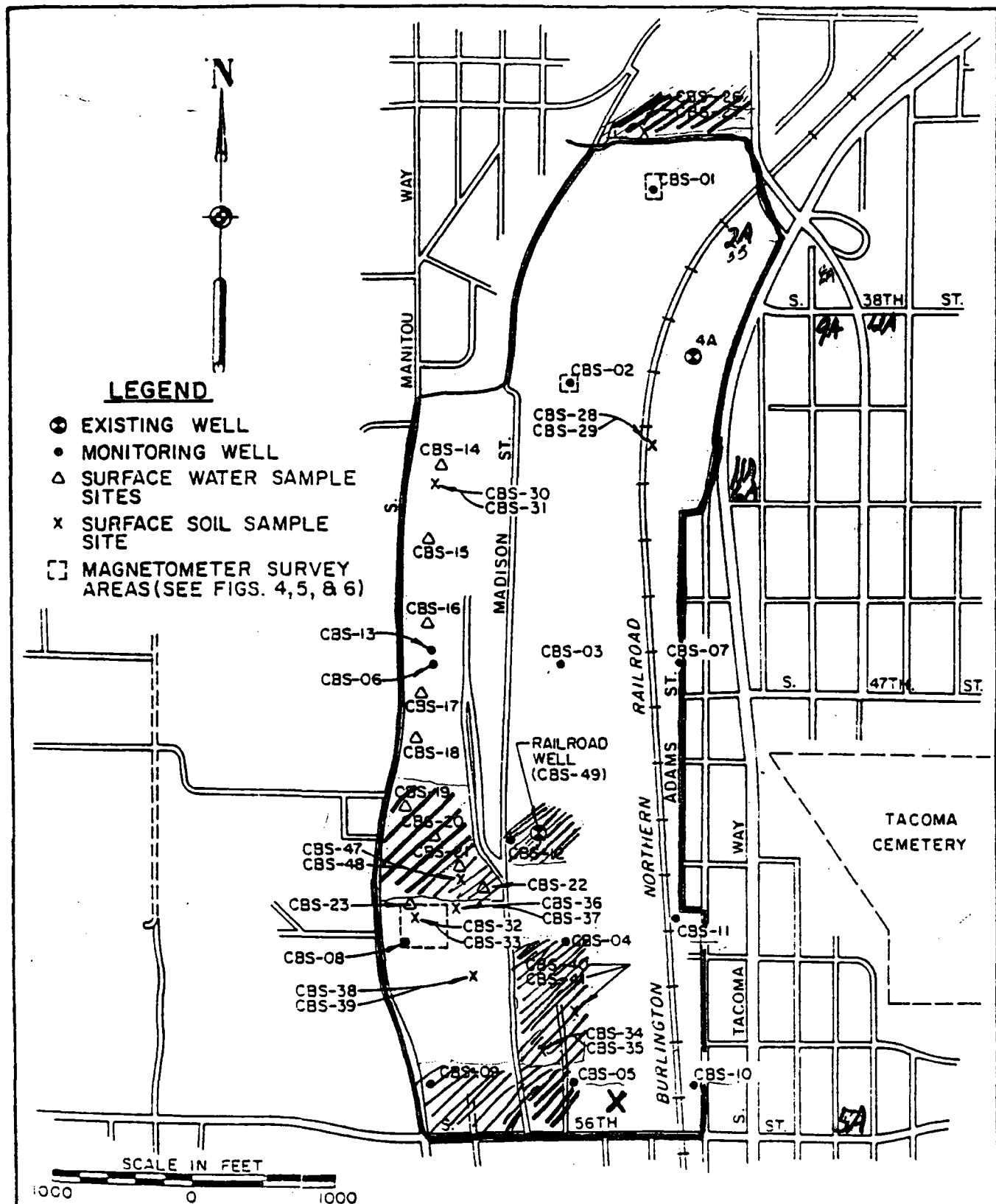


Figure 1. SAMPLE LOCATION AND VICINITY MAP

/// = property not owned by BNR
□ = Tacoma Swamp

PRELIMINARY FIELD INVESTIGATION
SOUTH TACOMA SWAMP
TACOMA, WASHINGTON

x = Buried Drums
2A, 4A, 6A, 5A, 9A, 12A =
City of Tacoma
Municipal Wells

Appendix A

**WORK PLAN FOR A REMEDIAL INVESTIGATION
AND FEASIBILITY STUDY OF THE
BURLINGTON NORTHERN RAILROAD
SOUTH TACOMA SITE**

NOVEMBER 1986

TABLE OF CONTENTS

	<u>Page</u>
1. Introduction	1
2. Phase I - Preliminary Investigation	4
2.1 Site History	4
2.2 Site Survey	6
2.3 Site Plans	6
2.4 Description of Surface Debris	6
2.5 Waste Sampling and Analysis	7
2.6 Reporting and Schedule	8
3. Phase II - Waste Deposition	10
4. Phase III - Remedial Investigation and Feasibility Study	11
4.1 Task 1 - Description of Current Situation	11
4.2 Task 2 - Project Plans	11
4.3 Task 3 - Site Investigations	12
4.4 Task 4 - Site Investigation Analysis	14
4.5 Task 5 - Preliminary Remedial technologies	14
4.6 Task 6 - Development of Alternatives	15
4.7 Task 7 - Initial Screening of Alternatives	16
4.8 task 8 - Evaluation of Alternatives	16
4.9 Task 9 - Evaluation of Cost-Effective Alternatives	18
4.10 Reporting	18
4.11 Schedule	19

1. INTRODUCTION

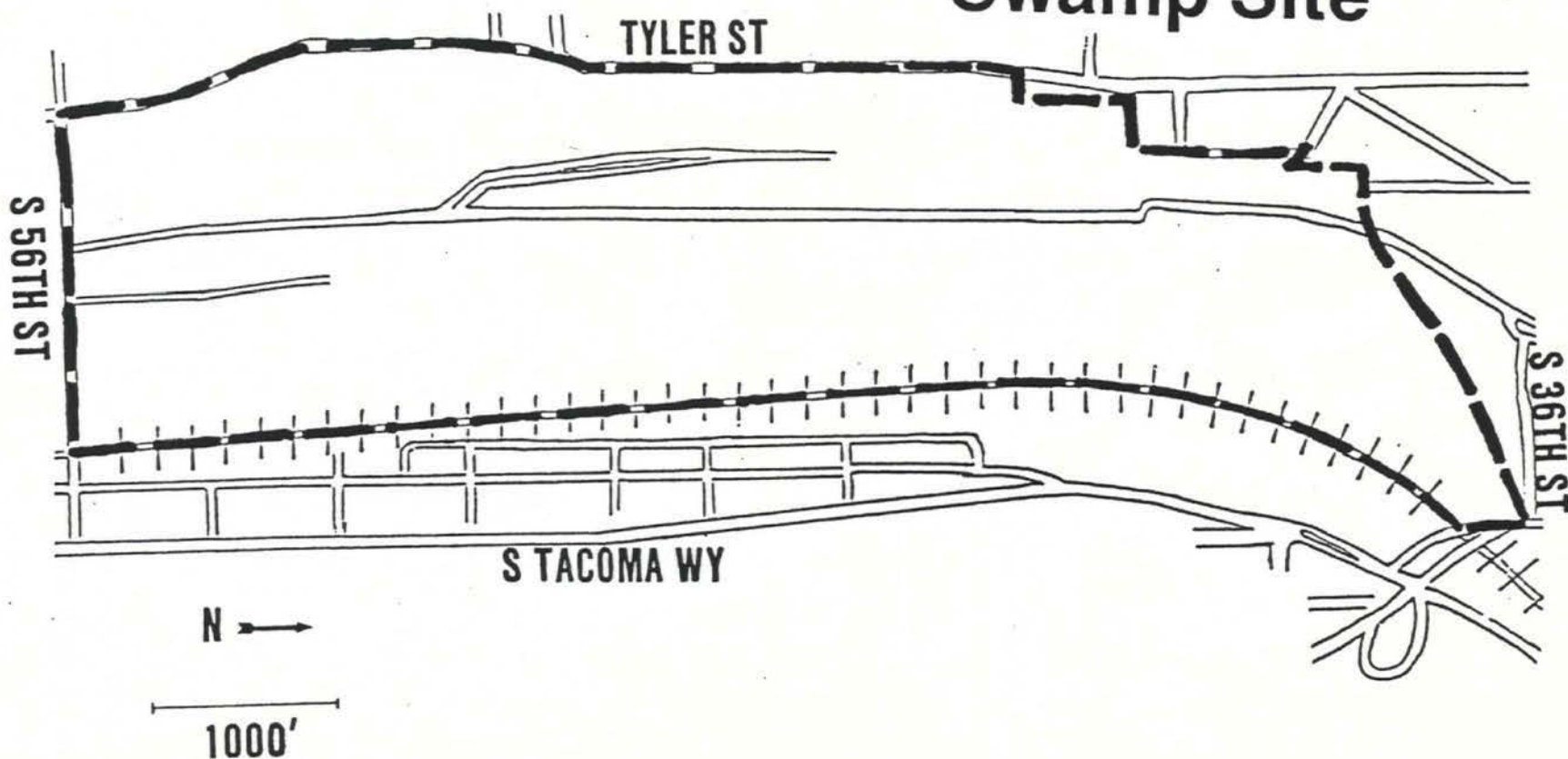
The Burlington Northern Railroad (BN) South Tacoma site encompasses approximately 300 acres in the northwestern section of Pierce County, in the southwest corner of the city of Tacoma. The site is bounded by Tyler Street on the west, BN railroad tracks on the east, South 36th Street to the north and South 56th Street to the south. Figure 1 presents the site location. BN owns approximately 220 acres within this area. Their exact property boundaries are being investigated. Historically this property was a Milwaukee Railroad railyard and included railcar repair and demolition facilities.

In 1981, the South Tacoma Channel, which includes the BN South Tacoma, was designated by EPA as a priority area under CERCLA (Superfund). Contamination of Tacoma Municipal Well 12A with volatile organics was the basis for this designation. The area was investigated by EPA in 1982, and by the EPA and the Tacoma Pierce County Health Department from 1982 through 1985. These investigations concluded that inorganic and organic chemicals are present at the site and resulted in the issuance of an Administrative Order on Consent to BN for further site investigations.

In response to that Consent Order, BN proposes to conduct a three phase Remedial Investigation and Feasibility Study (RI/FS). This Work Plan describes those proposed activities and will serve as an attachment to the Consent Order. Phase I of the Work Plan is a Preliminary Investigation which will include a site history, site survey, mapping of surface debris, waste sampling and

REI/EC

South Tacoma Swamp Site



STUDY AREA FOR THE SOUTH TACOMA RI/FS

FIGURE
1

analysis, and reporting. Phase II will define remedial measures, if necessary, for any surface materials discovered in the Phase I investigation believed to present an immediate health hazard. Upon completion of the Phase I and Phase II efforts, a full RI/FS will be conducted which will be Phase III of the investigation.

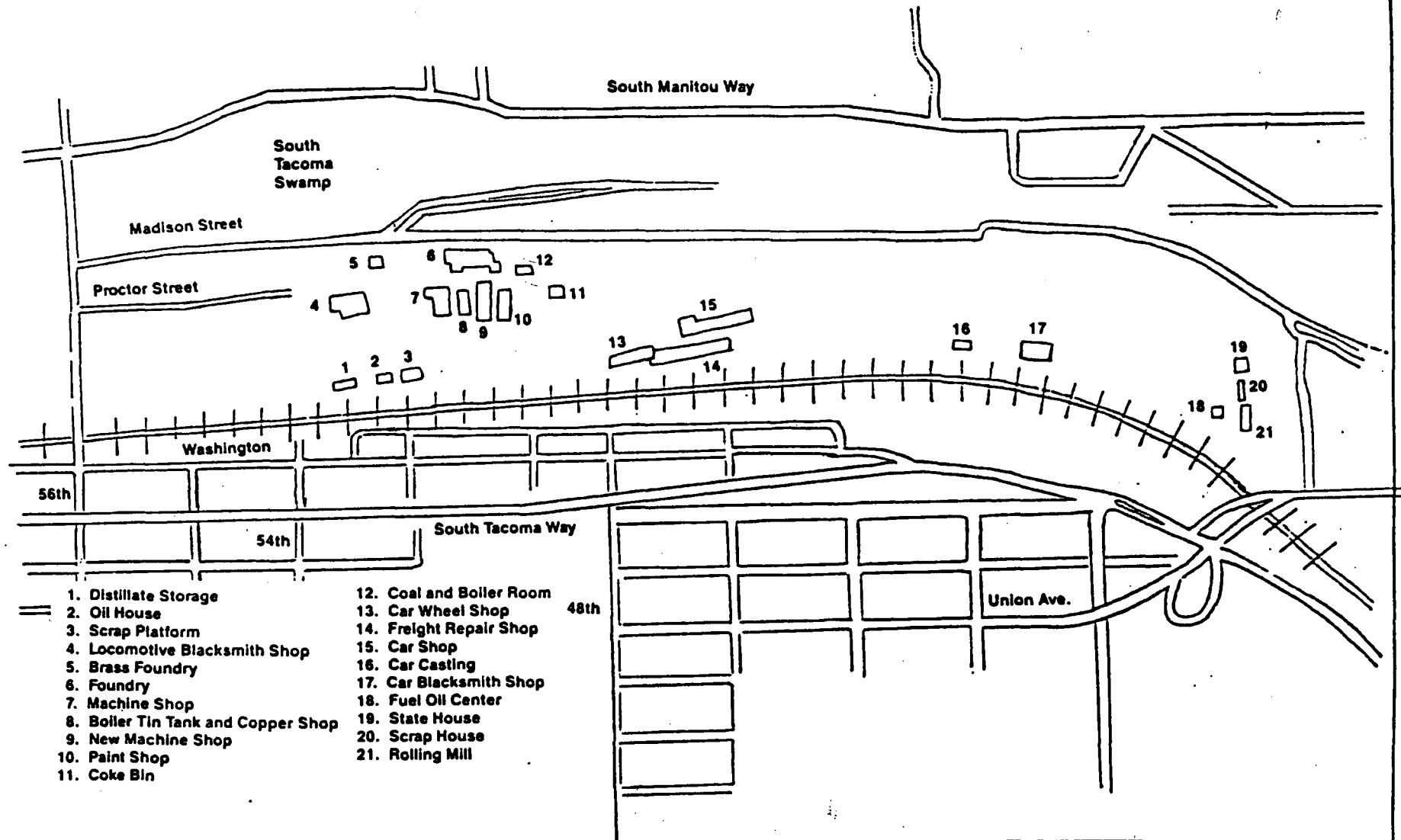
2. PHASE I - PRELIMINARY INVESTIGATIONS

2.1 Site History

A history of past activities and current land use on and immediately adjacent to the site will be compiled. The goal of this task is to obtain data on past waste generation and disposal activities. Available recent and historical aerial photographs of the site will be obtained. Local residents and former railyard employees will be sought for interviews on past site operations. Various plats from Burlington Northern's files of the former railyard dated 1928 and 1935 have been obtained. These show the historical use of a portion of this site. The former railyard contained blacksmith shops, foundries, machine shops, repair shops, a paint shop, and fuel storage areas. Figure 2 shows the former railyard layout based on these early plats.

A literature search will be conducted utilizing materials available from BN, EPA, USGS, Ecology, and any other available sources including the City of Tacoma. Information from prior environmental investigations conducted by others will be reviewed and compiled to define site conditions as well as areas of potential concern. This will include data on locations and completion details of groundwater monitoring wells, waste and environmental sampling results and any other pertinent information. Well logs will be used to develop subsurface cross-sections of the area and the location of the cross-sections will be indicated on a base map. Monthly water levels will be recorded at the existing site monitoring wells.

RELEC



FORMER RAILYARD FACILITIES AT THE SOUTH TACOMA SITE

FIGURE

2

2.2 Site Survey

A registered land surveyor will be contracted to prepare a topographic map of the study area using aerial photogrammetric techniques. A scale of 1:2400, (1 inch = 200 feet) with a two foot contour interval, will be used so that the entire site will fit on a standard 24" by 36" blue line sheet. Boundaries of the properties owned by BN and by others will be shown. As part of the same survey contract, vertical and horizontal controls will be established for the existing groundwater monitoring wells.

2.3 Site Plans

Project Health and Safety, Quality Assurance/Quality Control (QA/QC) and Sampling Plans will be developed for the Phase I investigations and will be submitted to EPA. The Health and Safety Plan will describe personnel protection measures for field investigations. The QA/QC Plan will describe field and laboratory procedures for ensuring that data collected are valid, defensible and complete. The Sampling Plan will provide details on sampling locations, procedures and analytical protocols and is discussed further in Section 2.5.

2.4 Describe Surface Debris

Portions of the site contain surface debris including household wastes, construction/demolition debris, lime deposits, and stored barrels of emulsified asphalt. These items and other surface debris which may be discovered will be mapped initially through aerial photos and then field verified. Field verification of the debris will occur only on BN property. If

necessary, larger scale site quadrant maps (1 inch = 50 feet) will be developed for mapping. Volume estimates of each general type of surface debris will be made.

2.5 Waste Sampling and Analysis

Samples will be collected and chemical analysis obtained of any "suspect" surface debris which could represent an immediate health hazard. Suspect areas will be defined on the basis of past site activities, historic environmental quality data, and detection devices used on site during field verifications.

A portable GC will be used for screening and quantitative analysis of volatile and semi-volatile Hazardous Substance List (HSL) compounds in soil and water samples. The GC will be equipped with the following three detectors:

- 1) Flame Ionization Detector - This detector is a general purpose detector and is most responsive to hydrocarbons.
- 2) Photoionization Detector - This detector is selective for aromatic compounds. It will detect most HSL aromatic compounds to sub part per billion levels.
- 3) Electrolytic Conductivity Detector - This detector is selective for halogenated compounds. It will detect all chlorinated HSL compounds to sub part billion levels.

Prior to any actual sample collection or field screening, a Sampling Plan will be submitted to EPA for review and approval. The Sampling Plan will identify those areas marked as "suspect", describe the planned field screening and sample collection procedures, and provide the analytical parameters and analysis

methods for each area.

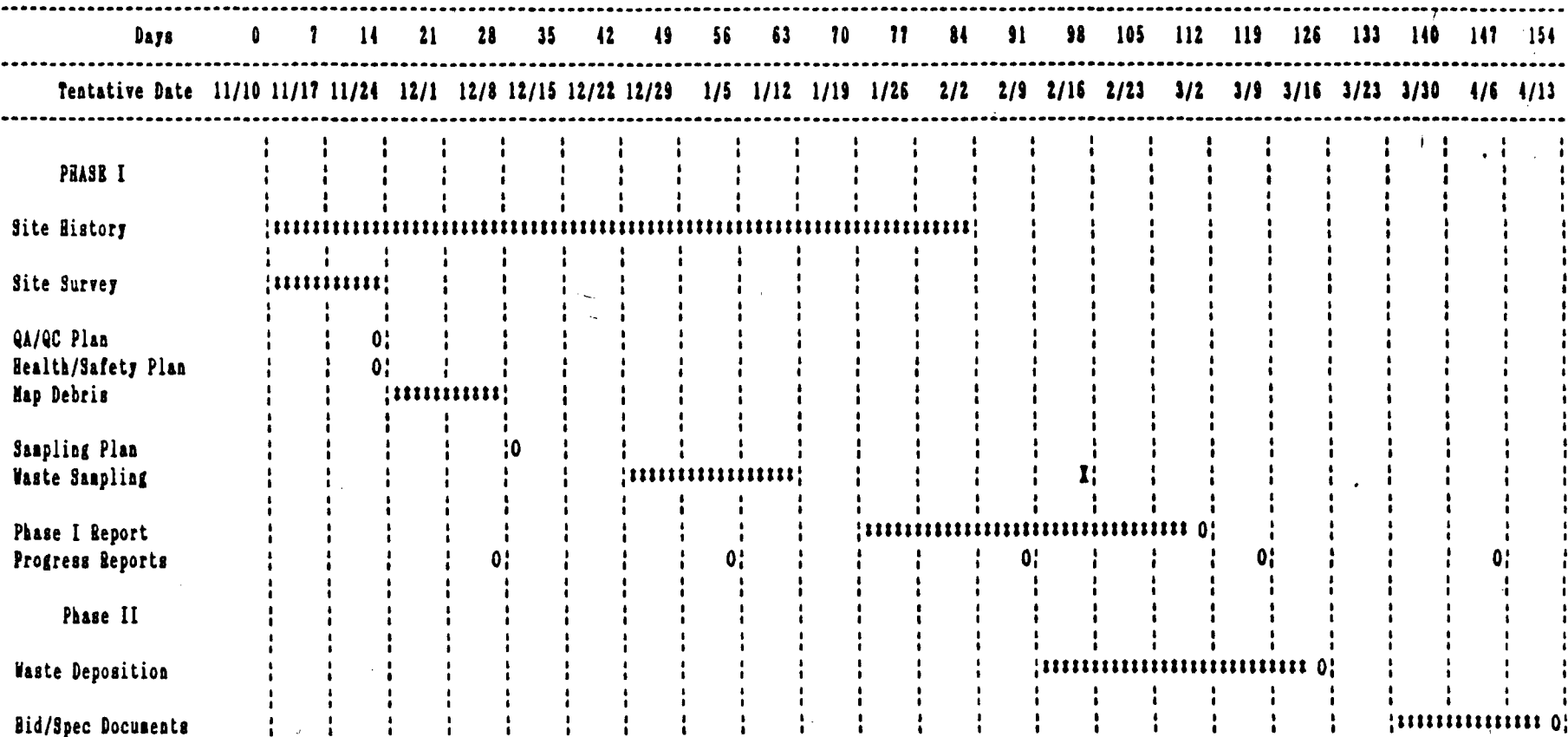
It is expected that 40 to 50 samples will be collected and screened for organics using the field GC. At least 20 percent of the screened samples will be submitted for laboratory analysis and verification. No field screening for inorganic samples is planned but up to 30 samples will be collected for laboratory analysis. Specific testing parameters will be determined following review of existing environmental quality data and information obtained during the Site History task.

2.6 Reporting and Schedule

Phase I reporting will include submittal of Monthly Progress Reports and a final Phase I report. The Monthly Progress Reports will describe the actions that have been taken towards achieving compliance with the Consent Order as well as activities scheduled for the following month. If any modifications or deviations from the Work Plan were required or are anticipated, these will be described with the reasons for revisions. The Phase I report will include the site history information, detailed site maps and analytical data (including QA/QC results) from sampling of surface debris.

Figure 3 provides the schedule for conducting the Phase I investigations. Health and Safety and QA/QC Plans will be submitted within 14 days of the effective date of the Consent Order. The Sampling Plan will be submitted within 30 days and implemented within 42 days. The Phase I report will be submitted to EPA within 105 days after the effective date of the Consent Order.

RELIEC



::: Field or Investigative Activity
 0 Report Submittal to EPA
 X Lab Data Received

PHASE I AND II SCHEDULES FOR THE SOUTH TACOMA RI/FS

3. PHASE II: WASTE DEPOSITION

Surface materials investigated in Phase I and found to present an immediate health hazard will be targeted for immediate remedial measures. Such measures could include removal, control and/or temporary, secure storage. The health hazard evaluation will make use of published standards and criteria as developed by EPA, Ecology, OSHA, NIOSH, et. al.

Monthly progress reports as described in Section 2.6 will be submitted during Phase II. A Phase II report will be developed defining those areas of surface debris believed to present an immediate hazard. The report will document the basis for that determination, describe the remedial action alternatives available for each potential health hazard, and provide a recommended response plan. Upon selection of a final plan by EPA, bid documents and project specifications will be prepared by BN to implement the selected response(s).

Figure 3 presents the Phase II schedule. The Phase II efforts will begin within 84 days and the report will be submitted within 126 days.

4. PHASE III - REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

Upon completion of the Phase I and II efforts described above, BN will prepare a detailed Remedial Investigation and Feasibility Study (RI/FS) Work Plan for submittal to EPA. The RI/FS Work Plan will be prepared in accordance with EPA Guidance Documents in effect on the effective date of the Consent Order. The South Tacoma project will involve conducting the RI and the FS concurrently and interdependently. As RI data are gathered, assessment of the appropriate remedial response(s) will begin. Reassessment of response actions may be required as more data are available. This in turn may require additional site investigations to evaluate new alternatives. The following section provides a preliminary RI/FS Work Plan for the South Tacoma site. RI tasks will be defined in more detail in the final Work Plan.

4.1 Task 1 - Description of Current Situation

This section of the Work Plan will provide a summary of Phase I and Phase II results.

4.2 Task 2 - Project Plans

The Work Plan will include the following support plans:

Task 2(a) - Sampling Plan

The sampling plan will define the sample collection, preservation and analytical procedures to be used for waste, soil and water samples. Sampling locations will be identified on site

maps and sampling schedules and frequencies will be provided. The Sampling Plan will provide the QA/QC requirements for field sampling including chain of custody procedures.

Task 2(b) - Health and Safety Plan

The Health and Safety Plan will define protective equipment, clothing and general procedures for the protection of site workers, minimization of contaminant migration and for the protection of the surrounding public. The plan will incorporate Phase I and II results including the nature of site contaminants, exposure potential and health effects of site contaminants.

Task 2(c) - QA/QC Plan

The QA/QC Plan will describe the field and laboratory procedures for ensuring that the data collected throughout the RI are of sufficient quality to conduct a well informed FS. The plan will provide the QA organization, documentation requirements and procedures for the South Tacoma RI/FS.

4.3 Task 3 - Site Investigations

Investigations necessary to characterize the site and its actual or potential hazard to public health and the environment will be conducted. Detailed site investigation plans are, of necessity, dependent upon Phase I and II results. The general investigations planned at this time are described below. 6

Task 3(a) - Waste Characterization

It is expected that most, if not all, of the waste

characterization efforts required at this site will be completed in the Phase I investigations. Some waste characterization efforts may remain but cannot be defined at this time.

Task 3(b) - Hydrogeologic Investigation

The hydrogeologic investigation of the South Tacoma site will rely heavily upon existing data from other investigations. The investigations will provide data on the vertical and horizontal extent of groundwater contamination, assess seasonal variations in groundwater flow, and provide hydrogeologic input for the FS.

It is expected that six to eight additional groundwater monitoring wells may be required near waste source areas identified in Phase I. Piezometer installation to better define the hydraulic gradients at the site is also expected to be required. Groundwater quality samples will be collected from selected wells for laboratory analysis. Sampling will be conducted quarterly for three quarters. Definition of analytical parameters will be dependent upon Phase I results.

Task 3(c) - Soils and Sediment Investigation

A program to determine the presence, location and extent of surface and subsurface soil and sediment contamination will be undertaken. These investigations will focus on soils near the waste source areas defined in Phase I. Background soil sampling will also be conducted. Soil sampling during monitoring well installation and, perhaps, through a test pit exploration program will be conducted.

Task 3(d) - Surface Water Investigation

A program will be conducted to determine the presence and extent of contamination of surface waters present on the site. Some area streams have already been sampled by EPA. These results in conjunction with the Phase I results will be used to guide the surface water sampling effort.

Task 3(e) - Air Investigation

This task will involve a review and summary of available air quality data for the study area. Any site specific data collected during the Phase I and II investigations will be included. Such data could include organic vapor monitoring from Health and Safety operations and/or particulate data collected during construction or excavation activities. These data will be compiled and reviewed to evaluate the potential risk to human health and the environment from on-site air emissions.

4.4 Task 4 - Site Investigation Analysis

This section of the work plan will describe the data management and analysis procedures for all site investigations and their results. This analysis will be conducted on an ongoing basis through out the RI. The purpose of the site investigation analysis is to ensure that sufficient data exist to define the extent of contamination, to assess the actual or potential risk to human health and the environment, and to support the FS.

4.5 Task 5 - Preliminary Remedial Technologies

Potentially feasible technologies for each appropriate

response action will be developed. This master list will include both source controls and management of migration measures. After developing a master list of potentially feasible technologies, a screening of these technologies will occur. The screening will be based on site characteristics, waste characteristics and technical feasibility. A report will be submitted to EPA describing the technologies evaluated and the screening process.

4.6 Task 6 - Development of Alternatives

Based on the results of the ongoing RI and the preliminary screening in Task 5, a limited number of alternatives will be selected to achieve remedial response objectives.

Task 6(a) - Establishment of Remedial Response Objectives

Remedial response objectives will be developed on the basis of data collected in the RI as well as:

- o Public health and environmental concerns
- o Section 308.68 of the National Contingency Plan (NCP)
- o EPA and appropriate state and federal guidance
- o Applicable federal and state statutes

Task 6(b) - Identification of Remedial Alternatives

Alternatives will be developed that incorporate the preliminary remedial technologies (Task 5), response objectives (Task 6(a)), and other appropriate considerations into a comprehensive approach for the South Tacoma Swamp site.

4.7 Task 7 - Initial Screening of Alternatives

Those alternatives developed in Task 6(b) will be screened to eliminate those that are clearly not feasible or are inappropriate. The basis for this screening will include public health, environmental, and cost concerns. Cost screening will be conducted only after environmental and public health screenings have been performed.

4.8 Task 8 - Evaluation of Alternatives

Detailed development of the alternatives that pass the initial screening in Task 7 will be conducted. This evaluation will include a technical analysis, environmental and public health analyses, and a determination of the cost-effectiveness of the alternatives.

Task 8(a) - Technical Analysis

The technical analysis will include appropriate treatment, storage, and disposal technologies as well as a discussion of how the alternatives do (or do not) comply with specific requirements of other environmental programs. The operation, maintenance, and monitoring requirements of the remedy will be outlined. The potential off-site facilities and transportation requirements will be identified and reviewed. A description as to whether the alternative results in permanent treatment or destruction of the wastes will be provided. An outline of safety requirements for on-site and/or off-site remedial implementation and a description of how the alternative could be phased into individual operable units will be included. Any special engineering requirements of

the remedy will also be included.

Task 8(b) - Environmental Analysis

An Environmental Assessment (EA) will be performed for each alternative and will include an evaluation of each alternative's environmental effects, an analysis of measures to mitigate adverse effects, physical or legal constraints, and compliance with other regulatory requirements. The no-action alternative will be fully evaluated and will serve as the baseline for this analysis.

Task 8(c) - Public Health Analysis

A public health analysis will be conducted to assess each alternative in terms of the extent to which it mitigates long-term exposure to residual contaminants and protects public health both during and after remediation. The assessment will include a description of site contaminants, potential exposure routes, and the potentially affected population.

Task 8(d) - Institutional Analysis

Each alternative will be evaluated based on relevant institutional needs such as regulatory requirements, permits, community relations, and participating agency coordination.

Task 8(e) - Cost Analysis

A cost evaluation will be developed for all feasible remedial action alternatives (and for each phase or segment of the alternative). The cost will be presented as a present worth

cost and will include the total cost of implementing the alternative and the annual operating and maintenance cost.

4.9 Task 9 - Evaluation of Cost-Effective Alternatives

Those alternatives found to achieve the response objectives developed in Task 6(a) will be analyzed in terms of cost effectiveness. Alternatives will be compared using technical, environmental, public health and economic criteria and a preferred alternative will be recommended. The lowest cost alternative that is technically feasible and reliable and protects public health and the environment will be considered the most cost-effective alternative.

4.10 Reporting

Monthly Progress Reports

Monthly progress reports will be submitted to EPA. These letter reports will describe the actions that have been taken towards achieving compliance with the Consent Order as well as activities scheduled for the following month. If any modifications or deviations from the work plan have been required or are anticipated, these will be described with the reasons for revisions.

Preliminary RI/FS Report

A preliminary report presenting the results of Tasks 1 through 9 will be prepared. Copies of the preliminary report will be submitted to EPA and Ecology for review.

Final RI/FS Report

A final report will be prepared for submission to EPA and Ecology. The report will include the results of Tasks 1 through 9 and a responsiveness summary written by EPA.

4.11 Schedule

Figure 4 presents the schedule for submitting the South Tacoma Work Plan and for implementing the RI/FS. The RI/FS Work Plan will be submitted 200 days after the effective date of the Consent Order. The RI will be initiated in 224 days and will be completed within 448 days after the effective date of the Consent Order. The preliminary technology report will be submitted within 420 days after the effective date of the consent order. The preliminary RI/FS report will be submitted 560 days after the effective date of the Consent Order.



FIGURE
4

Statement of Work

Oversight of the Potentiality Responsible Parties Remedial Investigation/Feasibility Study of the Tacoma Swamp

I. Background

The South Tacoma Swamp is part of the South Tacoma Channel Superfund site promulgated on the September 1983 National Priorities List (NPL). The area includes 345-350 acres of land primarily owned by Burlington Northern Railroad. During the early 1900's the land was used as a general dumping ground for domestic, industrial, and military wastes. The property is located in the industrial section of the city of Tacoma. The groundwater serves as the major water supply for the city of Tacoma. Surface water drains into Flett Creek and eventually into Puget Sound.

The Environmental Protection Agency (EPA) performed a preliminary investigation of the area in 1983. A total of 13 wells were installed and sampled, 19 soil and 10 surface water samples were taken and, a magnetometer survey of the area was completed. The sampling results indicated that the primary concern was inorganic contamination. In 1986, Burlington Northern Railroad uncovered approximately 80 barrels containing extremely high levels of coal tar derivatives.

In October 1986, Burlington Northern entered into an Administrative Order on Consent with EPA to complete the Remedial Investigation/Feasibility Study (RI/FS) for their property within the Swamp. They own approximately 300 acres within the 350 acre site. The work plan for their RI/FS is attached.

II. Work To Be Performed

A. Provide Technical Oversight During All Phases of RI/FS.

The oversight requires monitoring of all on site activities to assure that they are performed in accordance with the approved work plan. In addition, the on scene representative will be responsible for assuring that the health and safety of the public and surrounding environment is protected. Oversight requires the presence of at least one person during all major site activities.

B. Review of work plan

All work plans submitted by the Potentially Responsible Parties (PRP) will undergo thorough review by EPA. The contractor is also required to familiarize themselves with the approved work plan. They will be asked to provide comments to EPA within a timely manner to be included in EPA response to the PRP.

C. Prepare Site Specific Quality Assurance and Health and Safety Plans.

The contractor will prepare plans for the split samples which will be submitted either to EPA Region 10 laboratory or to the contract lab program. EPA will split a maximum of 20% of all samples taken by the PRP. EPA split samples are not to be used as a statistical or legal comparison with the PRP samples. They are simply taken as representative of the site investigation. Quality assurance will only be completed for the splits.

D. Reports

Contractor will prepare monthly progress reports. These will summarize all site activities. In addition, contractor will keep a daily log. The log will include all site activities, any unusual conditions, changes to the work plan or memos of meetings. The log will be made available to EPA's project coordinator upon request.

At the completion of the RI/FS the contractor will turn over all logs to EPA.

BURLINGTON NORTHERN RAILROAD 19

RONALD W. EUBANKS
General Counsel-Seattle

2200 First Interstate Center
999 Third Avenue
Seattle, Washington 98104

January 7, 1986

Ms. Sharon Gwatkin
Assistant Regional Counsel
U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

Attn: M/S 613

Re: South Tacoma Swamp, Docket No. 1086-08-08-106

Dear Ms. Gwatkin:

In accordance with our previous conversation, I have enclosed the original executed Order on Consent which you furnished with your letter of December 17, regarding the South Tacoma Swamp. I understand you will provide us with a fully executed copy of this Order.

Very truly yours,



RWE/ds
enclosure

RECEIVED

JAN 8 1987

OFFICE OF REGIONAL COUNSEL
EPA - REGION X

Appendix B